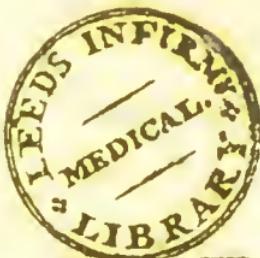


32
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PRACTICAL
OBSERVATIONS
ON
HERNIA;
ILLUSTRATED WITH CASES.



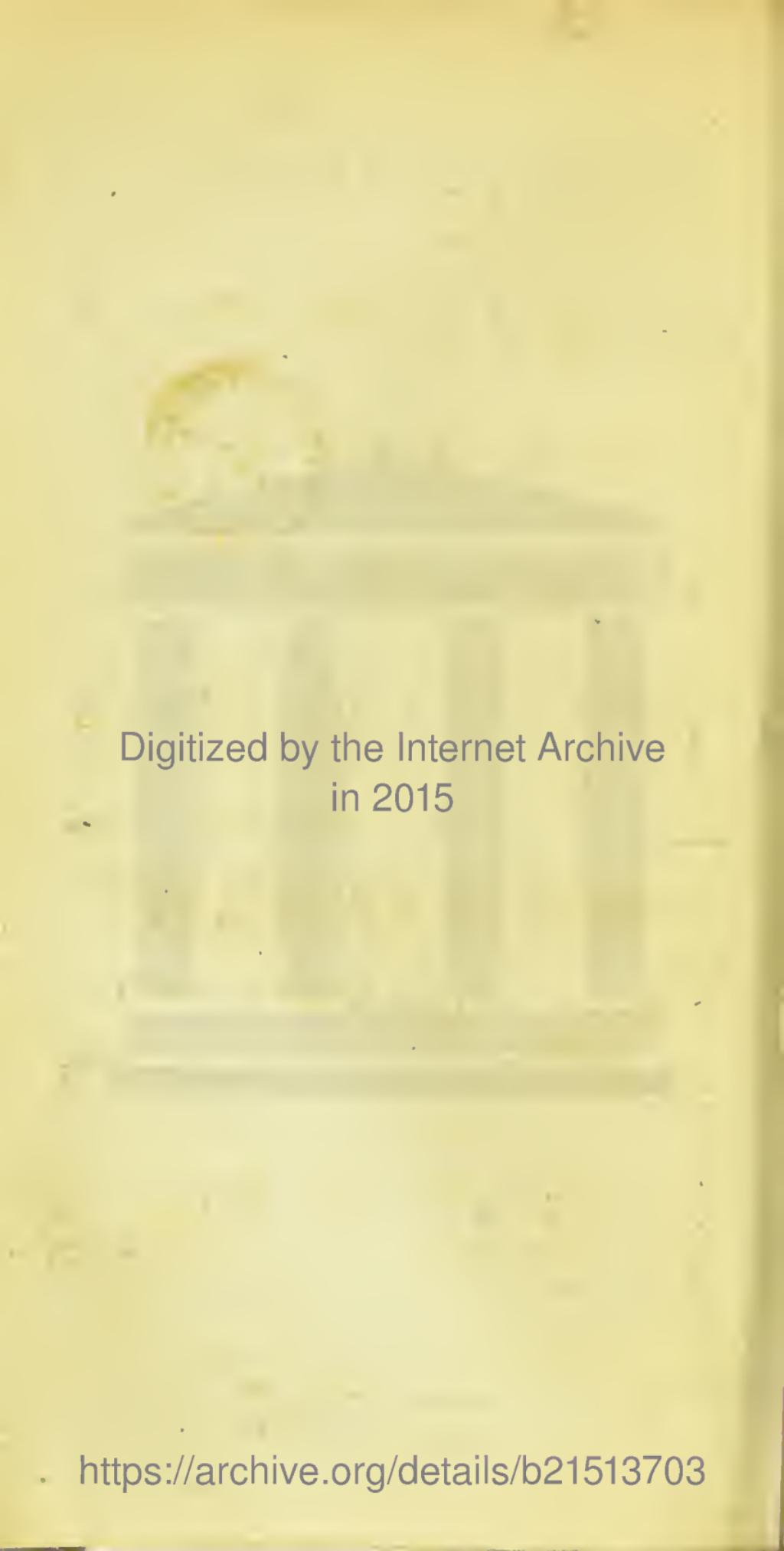
By B. WILMER,

SURGEON, in COVENTRY.

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P R E F A C E.

THE History of Medicine affords not a clearer Proof of the Utility of anatomical Knowledge than the Treatment of Herniæ, which has been more immediately the Province of Surgery.—Ignorant of the Structure of the Parts which were the Seat of the Disease, Surgeons continued uninformed, and from the early Age in which *Celsus* appeared, to the Close of the last Century, no great Degrees of Improvement, in these Instances, are

recorded ; but the Opinions and Practices which Custom had established were carefully taught, with all their Faults, to the succeeding Times.

If the regular Practitioners in Surgery seemed to be inattentive to the Cure of these Complaints, there was found another Set of Men, who boasted of Art sufficient to remove them. — The Boldness of these Pretenders usually bore Proportion to their Want of Knowledge, and both of them, in no small Degree, seem to have been the striking Marks of their Character.

The intricate Steps which lead where the Sources of Science can be found, they had not taken, but all their

their Defects of Skill they supplied with never ceasing Confidence; and the daring Attempts, to which their Want of Merit gave Birth, were, by the Ignorant, thought to be the Proofs of it. Till the Time of *Heister*, the Care of Persons who were thus afflicted was, in most Parts of Europe, generally left to Itinerants of such a Character as hath been described.—

These wandering Practitioners, in all Cases they undertook, used the most dangerous Methods: nor is it strange that their Operations were often fatal to the Patients, whom a more rational Treatment might have restored. In most Instances, with much Temerity, they destroyed the spermatic Chord by Burning, Incision, Ligature, or some equal

vi P R E F A C E.

equal Violence, and frequently when neither a Strangulation of the Parts, nor any other Circumstances made it necessary to resort to such inhuman and harsh Methods of Treatment.

The mischievous Progress of these Empirics, at length, became hurtful enough to require the Interposition of the Magistrate ; and, in some Places, their further evil Practices were thereby prevented.

With regard to the present State of this Branch of the healing Art, when the Praife which is owing to modern Surgeons for the Improvement they have made in it is allowed ; it must, also, be observed, that, probably, it will

will yet admit of many useful Additions.

The Discovery of the *Formation* of the Tunica Vaginalis hath led us to the Knowledge of a Species of this Disease, which a late and celebrated Writer supposed to be a *Lusus Naturæ*; yet, from the Uniformity of the natural Course of Things, it is not to be doubted that it must have happened, not only frequently, but in every Age.

As some of the Opinions contained in the following Sheets differ from those which long Usage hath established, and which are supported by the highest chirurgic Authority,

the

viii P R E F A C E.

the Author thinks it necessary to declare, that he would not have submitted them to the public Eye, had they not been the Result of attentive and practical Observation.

O B S E R-

O B S E R V A T I O N S

O N

H E R N I Æ.

WHEN a Portion of Intestine or Omentum is protruded from the Cavity of the Abdomen through the Aperture of the Tendon of the external oblique Muscle, it carries the Peritoneum with it, and thus forms what is called the Hernial Sac; it having been sometimes observed that the Contents of the Tumor were in contact with the Tunica albuginea of the Testis; and therefore within the Tunica Vaginalis, ignorant as Surgeons have been, till lately, of the anatomical Structure of the Parts concerned, it is not to be wondered, that they

supposed, in this Case, the Peritoneum must have been torn or ruptured.

Mr. *Samuel Sharpe* having found the Intestine, in several Instances, in contact with the Testicle, endeavours to explain the Phenomenon by observing, “ it is evident to me, that notwithstanding the Peritoneum may at first fall down with the Viscera, yet, in length of Time, it may also be *ruptured*, because I have found the Intestine and Omentum within the Tunica Vaginalis of the Testis, and in contact with the Testis itself, which they could not possibly have been, if they were enveloped in a Portion of Peritoneum ; however, we find this Circumstance occurs but rarely, for we usually find the Viscera within a Prolapsus of the Peritoneum, which Prolapsus is known by the Name of the Herniary Sac *.”

* Critical Enquiry, p. 3.

From

From the Observations which my Practice has enabled me to make, I am inclined to think that this Species of Hernia is much more frequent than is generally imagined.—In nine Cases, in which my Patients have been compelled to submit to the Knife, five were the Hernia congenita, and in three of them the Stricture was not in the Tendon of the oblique Muscle; but the Impediment to Reduction appeared to consist in a hard thickened State of the Opening or Neck of the Hernial Sac, more than an Inch higher than the external Opening of the Tendon. Whenever the Operation for the Bubonocele is performed, it appears to be of the utmost Consequence, that after dividing the Tendon, the Surgeon should carefully examine with his Finger, whether a Stricture in the *Neck of the Sac* does not still resist the Returning of the Intestine into the Abdomen.—I have more than once seen the Intestine burst by the Violence used by the Operator to return it, after dividing, what he thought, the Part forming the

Stricture.—The Hernia congenita is not only more frequent than is generally imagined, but, from Circumstances which will be mentioned hereafter, is more dangerous than any other Species of this Disease. In order to have clear Idea of the different Kinds of Herniæ, particularly of the Hernia congenita, it will be necessary to consider the State of the Testis in the Fœtus, and the Changes it undergoes previous to, and soon after, Birth.—Students in Anatomy frequently find Difficulty in comprehending this Subject, I hope, therefore, to be forgiven, if, before I proceed, I shall give a Description of that Process:

—In the Fœtus, the Testis on each Side is usually found immediately under the Kidney, on the anterior Part of the Psoas Muscle, and near that Part of the Rectum which is above the Brim of the Pelvis.—Connected by its posterior Edge to the Psoas Muscle, it is covered by the Peritoneum in every other Part, and with the Viscera of the Abdomen, receives from that

that Membrane a smooth and polished Surface.

Before the Testis descends through the abdominal Opening, it is, in some Degree, connected with that Aperture by a Ligament, which seems to have an Influence in directing its Descent. This Ligament is, in form, like an inverted Pyramid; its larger Extremity or Basis is attached to the inferior Part of the Testis and the corresponding Portion of the Epididymis: its lower Extremity unites with, and is lost in, the Dartos. The Peritoneum is united to the inferior Surface of that Part of the Ligament, which is within the Cavity of the Abdomen.—This Membrane adheres much stronger to the Testis than to the neighbouring Parts, over which it is very loosely spread, and this Laxity of the connecting Medium of cellular Substance facilitates very much the subsequent Descent of the Testis, and the Production of its Tunica Vaginalis.—At some indefinite Period of Gestation;

times in the seventh Month, often in the eighth, and sometimes not until after Birth, the Testis leaves its original Situation in the Cavity of the Abdomen, and by slow Gradations is moved through the external abdominal Muscle into the Groin, or Scrotum. It is preceded in this Route by its conducting Ligament, whose Office appears to be, not only to guide the Testis into its destined Situation, but also to prepare its Passage by dilating the Opening of the abdominal Muscle.

Favoured by the very loose and yielding State, with which the Peritoneum covers the Parts contiguous to the Testis, whilst it was contained in the Abdomen; when it descends, it brings that Membrane with it, *behind* which it is situated.—From the inferior Part and Sides of the Testis, the Peritoneum is reflected, and forms a *Pouch* communicating with the Cavity of the Abdomen.—This Pouch, thus formed, resembles a hernial Sac, the anterior Part loose, the posterior adhering to the Testis,

Epididymis, spermatic Vessels, and Vas deferens. The anterior or reflected Part becomes the Tunica Vaginalis, and the posterior Part connected with the Testicle is called Tunica albuginea.

From the State of the Parts thus described, it must appear evident that the Testicle, and all the Vessels connected with it, must be *behind* this Production of the Peritoneum.

Soon after the Testis has passed through the external oblique Muscle, its opening communicating with the Abdomen closes, and in general is from that Time totally obliterated *. The inferior Part remains

* That this happens is demonstrated by Dissections, and by the Hydrocele which young Children frequently have, which could not possibly occur, unless the Opening was obliterated. I saw a Child lately, only three Days old, that had an Hydrocele on each Side; after attempting, in vain, to disperse the Tumor by Absorption, I opened the Tunica Vaginalis with a Lancet, after which there was no Return of the Complaint.

8 O B S E R V A T I O N S

loose, and forms the Tunica Vaginalis Testis.—If Nature is disappointed in her first Intention of closing this Opening;—by the Interposition of a Portion of Intestine, or any other Cause, a Communication betwixt the Cavity of the Abdomen, and that of the Tunica Vaginalis remains through Life; and at whatever Period afterward a Hernia happens, its Contents will be found in contact with the Tunica albuginea of the Testis, and thus the Lufus Naturæ of Mr. *Sharpe* is explained, and the supposed Rupture of the Ancients very readily accounted for. The celebrated *Heller* having observed, that sometimes, in Infants, the Intestine falls down into the Scrotum with the Testicle, or soon afterwards, and entering the Tunica Vaginalis before the Opening communicating with the Belly closed, was found in contact with the Testis. He therefore denominated this Species of Disease Hernia congenita.—It is extremely probable that most inguinal Ruptures, to which Children are liable, are of this Kind; for although

though it is certain, that Nature makes very early Efforts to close the upper Part of the new-made peritoneal Process, it may be supposed, by the Effort of crying, straining, &c. the Cicatrix may, with little Force, be separated again.

Parents cannot be sufficiently careful in their Attention to this Disease in their Children ; for when a Portion of Intestine insinuates itself into the Orifice of the Tunica Vaginalis, Nature is disappointed in her Intentions, and a hernial Sac is thus formed ; into which, at any future Period (although the first Disease may disappear) a Portion of intestinal Canal, or of the Omentum, may be protruded. It has been found, by repeated Experience, that the Hernia congenita in Adults, when in a State of Strangulation, is a Disease much more dangerous than a simple Bubonocele. In this Case, it frequently happens, that the Impediment to the Return of its Contents into the Belly, is occasioned by a Stricture in the Neck of the Sac.—Au-

thors who have written upon this Subject, endeavour to account for the Fact, by observing, that the Hernia congenita having existed in Infancy, it was probable that Trusses had then been applied, and by the Pressure of the Pad, the Contraction of the Neck of the Sac had been produced. But whether the Stricture is occasioned by this Circumstance, or the Operation of the first Efforts of Nature to close the Passage, is not yet sufficiently ascertained.— It must be observed, that the Part where this Stricture is generally found is at least an Inch higher than the Opening of the external abdominal Tendon, and therefore out of the Reach of the Pressure of the Truss. The Fact however is certain. It has been mentioned by Writers of the first Credit*; and, in performing the Operation for the Bubonocele, I have several Times observed it.

* *Le Dran* Observ. 58.—*Arnaud.* p. 382.
Dionis, 324.

Some

Some of the *French* Authors have asserted, that after the Tendon of the external oblique Muscle has been dilated, the Operator, not being aware of the Possibility of the Stricture in the hernial Sac, had returned the Intestine, still inclosed in the Sac into the Abdomen, and from the Stricture remaining undivided, the Case proved fatal.—But it is an undoubted Fact, except in very recent Herniæ, that the Sac, soon after its Protrusion from the Abdomen, contracts Adhesions to the neighbouring Parts; and after the Return of its Contents into the Belly (in whatever way it is accomplished), it ever afterwards remains in the Groin or Scrotum. It seems possible, that in very recent Descents, the Sac not having had a sufficient Time to form Adhesions with the contiguous Parts, may be returned into the Belly, and an Instance of this is recorded by Mr. Bell, in an Operation at which he was present. But after having admitted the Possibility of this Event, it may be proper to observe, that there are so many Reasons

for dividing the Sac in the Operation, that it should never be neglected.

An Operation for a strangulated Hernia Congenita, where a small Fold of Intestine was bid in a Quantity of diseased Omentum :— and a Stricture in the Orifice of the hernial Sac.

August 14, 1779, I was desired to visit Thomas Wells, a strong, middle aged Man, at Radford, a Village near this City.—I found him complaining of great Pain in his Belly. His Countenance had a melancholy Aspect; he had been sick, and his Pulse was much weaker and slower than natural.—He informed me, that he had a Rupture from his Infancy, which had heretofore given him no Uneasiness; that it very often descended in the Day, when he was at work, and as often returned, without any Assistance, when he was in Bed. During a considerable Period, however, before he had Occasion for my Assistance, the Contents of the

the Rupture had remained in his Belly; until the preceding Day, when, having exerted himself at a laborious Employment, he felt the Swelling suddenly return, and Pain and Uneasiness immediately ensued.—Upon examining the Parts, I found the Tumor occupied the right Side of the Scrotum, and the Testicle was not to be perceived below it.—The Tumor was hard and painful.—Having placed him in a proper Position, I made some Attempts to reduce the Hernia, but without Success.—Cold Applications were directed to be applied to the Part, the Smoke of Tobacco to be injected into the Rectum, and some Pills of Extractum Catharticum, Opium and Calomel were directed to be swallowed every hour.

August 15.—The bad Symptoms were much increased; the Night had been passed with much Inquietude. No Passage by the Anus.—The Tension of the Groin and Abdomen were undiminished.—The Powers of Life were weaker. The Circulation

culation was languid ; he was frequently affected with Hiccough, and he vomited often.—Endeavours were again used after the Application of Cold to the Tumor, to effect a Reduction ; but all Attempts of this Kind were as fruitless as before, and appeared only to increase his Pain.—In consultation with Mr. *Harrold*, a very eminent Surgeon of this Place, the Operation appeared to us the only Chance for Life ; it was therefore done immediately.—After I had divided the hernial Sac from the Edge of the abdominal Tendon, to the inferior Part of the Scrotum, a considerable Quantity of diseased Omentum appeared in View ; it did not adhere in any Point.—When the Omentum was turned off from the lower Part of the Scrotum, the Tunica albuginea of the Testis appeared in View.—The Omentum being ^aexpended at its upper Part, next the Border of the Tendon, a small Duplicature of Intestine, *of a red Colour*, appeared inclosed in it.—The Omentum was so much thickened and diseased, that it was thought improper

proper for Reduction: we therefore cut it off.—The Tendon of the external oblique Muscle was then divided obliquely outward.—And although this Dilatation was largely made, we could not return the prolapsed Intestine into the Abdomen. Passing my Finger within the Neck of the hernial Sac, I discovered at its Orifice, at least an Inch higher than the Border of the external Tendon, a circular Stricture, which prevented the Return of the Parts.—I conveyed the Point of a curved Bistory on the Inside of the fore Finger of my left Hand, and divided it; after which the Intestine was reduced with much ease.—After the Operation, he was ordered to take an Opiate, and to observe great Attention in his Diet.

August 16.—The Patient was much relieved in all Respects; his Pain was almost gone, the Tension of the Belly much diminished. The Vomiting ceased, and he had in the Night two Stools. From this Time he continued to mend, the Wound

Wound digested kindly, and, in the Space of a Month, was entirely healed. The practical Information obtained from this Case is, that in the Operation for the Bubonocele, the Surgeon should carefully examine the Neck of the hernial Sac, after he has divided the Tendon, and before he removes the Omentum (if the State he finds it in makes it necessary) he should be careful that he does not injure any Part of the Intestine, which may happen to be engaged in it.

Ruptures are very common in Children, whose Fibres resist, with little Effect, the Force with which the Contents of the Belly are pushed by crying, straining, &c. —The Disease is often left to the Management of Nurses, or ignorant People, and is, in general, much neglected.—In the early Period of Life, the tendinous Fibres of the abdominal Apertures easily give way; and the Contents of the Hernia are generally, by a recumbent Posture, or a slight Degree of Pressure with the Fingers, return-

returnable into the Abdomen*.—But in more advanced Life, the Fibres are more rigid, and when, by some Violence, a Protrusion of the Intestine happens, the Veins of the Intestine are compressed by the Resistance of the Edge of the Tendon; and the most alarming Appearances often ensue.—At whatever Age, or under whatever Circumstances, a Rupture happens, it demands an immediate and proper Attention; for although it must be acknowledged, that in Infancy a Strangulation very seldom ensues, yet that is a Period, when the Assistance of Art, properly employed, will always be attended with Success.—In the Ruptures of Adults, unless

* A Strangulation sometimes occurs in the Herniæ of Children. I was lately called to Rugby, in Consultation with Mr. Bucknell, to a Child not two Years of Age.—The Tumor was hard, attended with Vomiting and Costiveness.—He had been very ill during two Days, in which Attempts had several Times been made to reduce the Parts.—Though we at last succeeded by the Taxis, I never remember to have had more Difficulty in an adult Patient; and it was more than a Quarter of an Hour before the Parts would, in the least, give way to the Pressure I used.

the Case is recent, there will generally be more Uncertainty of the Event.

It has been observed, in the Account of the Formation of the Tunica Vaginalis, that soon after the Testis is protruded through the abdominal Opening, Nature uniformly makes an Attempt to close the upper Part of the peritoneal Pouch, and the Adhesion of its Sides to each other is generally completed in a very short Space of Time.—A recent hernial Sac is exactly the same Kind of Production as the Tunica Vaginalis.—They are both an Elongation of the Peritoneum, and if we reason by Analogy, we may suppose, that in Infants, if the newly made hernial Sac could be kept empty for the same Space of Time, as is required for the Obliteration of the Opening of the Tunica Vaginalis, the same Effects would result in both.—In young Children, linen Bandages are in general trusted to, behind which the Tumor frequently returns; and although the Disease may appear to be cured, the Orifice of

of the Sac having been frequently opened, and the abdominal Aperture dilated, a hernial Sac, *communicating with the Abdomen*, is frequently left in the spermatic Process; into which, at any future Period, the Contents of the Belly may, by a Variety of Causes, be protruded.

In all Cases of Rupture, immediate Reduction should be attempted, and when that Point is accomplished, the Parts should be prevented from prolapsing by a proper elastic Bandage.

A recent hernial Sac, both in Infants and Adults, is no thicker than the Peritoneum; its Sides may, therefore, after the Reduction of the Contents of the Tumor, be brought into contact, and by a proper and long continued Pressure of the Bandage, made to adhere: the future Descent of the Intestine and Omentum prevented, and thus a radical Cure will be effected.

It often happens, from Inattention at the first Commencement of the Case, the Parts composing a Hernia are in such a State, that they cannot be returned into the Cavity of the Abdomen.—Medical Writers have assigned various Causes for this; the Principal of which are,—the Thickness of the Neck of the hernial Sac, Adhesions of Parts to each other, increase of the Size of the Omentum, an Inflammation of the Intestine, and a Stricture of the tendinous Openings, through which these Parts have prolapsed.

The omental Rupture has divided the Opinion of Surgeons: Some contending, that the Omentum not being a Part of great Consequence in the animal **Œ**economy, say, if it cannot be *easily* returned into the Abdomen, it would be better to leave it in the Scrotum, where it might be supported by a suspensory Bandage; and that Inconveniences may be apprehended from its lying, after Reduction, like a Lump at

at the Bottom of the Belly.*—Others, with much more Reason, assert, that the Omentum should, if possible, be reduced. It is troublesome by its Weight, and is subject, by being displaced, to many Diseases.—By its Connection with the Stomach and Duodenum, a Sickness and Pain of those Parts are often produced, a large Quantity of Omentum may be suddenly forced down into the Scrotum, the Circulation may be intercepted by the Edges of the Tendon; its Vessels will be loaded with Blood, and a Mortification ensue. If these Effects do not happen, it may contract Adhesions to the hernial Sac, and increase so much in its Bulk as to make its Return impossible, through the narrow Passage from whence it came.—The Omentum, when thus displaced, has been found to be schirrous, and diseased by steatomatous Indurations.—But the strongest Argument for the Reduction of the omental Herniæ, is the Danger there will be of a Portion of Intestine, slipping through the

* *Sharpe's Critical Enquiry.*

Parts which the Omentum must always keep in a dilated State.

When the cellular Part of the Omentum in a Rupture is so much increased, that the Return has been thereby rendered impossible, several Instances have occurred where the Patient, having been confined by long Illness, has been kept in a recumbent Posture, and such an Emaciation of the Parts has ensued, that the Contents have been found to be, with great Facility, returnable into the Abdomen.—Surgeons appear to have taken a Hint from this Circumstance, and by Evacuants and long Confinement, have succeeded in the Reduction of some Cases, which, for many Years, had been supposed irreducible *.

The Symptoms produced by omental Herniæ are always troublesome and inconvenient to the Patient, but they are

* Sharpe's Crit. Enq. p. 15. Le Dran. p. 114. Arnaud. p. 292. Pott. Quart. Edit. p. 260.—Hildanus Obs. Cent.

not

not often dangerous. The Writers of surgical Observations have indeed acquainted us, that Death has been the Consequence of mismanaged Cases of this Sort, but those Instances are by no means numerous. The Knowledge of the Possibility of a fatal Event is sufficient to guard the prudent Surgeon from an improper Prognostic.

The Enterocèle, or Descent of the Intestine, is always a Disease to which great Attention should be given.—Although it be very common, that Persons with such a Rupture may find no great Inconvenience for many Years, yet it must be remembered, that they are never exempt from Danger.—A Strangulation of the Parts may come on in the most sudden Manner; and there have been Instances where a Mortification and Death have happened in a very few Hours after the Accession of the Symptoms *.

* Arnaud. Pott. p. 253.

We have been informed, that the Cause of the alarming Appearances in strangulated Herniæ, is a *Stricture* of the Openings of the Tendons of the abdominal Muscles, through which the Contents pass from the Cavity of the Abdomen.—A very eminent Writer assures us, that “ a Stricture made on the prolapsed Part of the Gut, by the Borders of the natural Aperture in the Tendon of the oblique Muscle, is the immediate Cause of these Symptoms, which nothing can appease or remove, *except what will take off that Stricture.*”

If the Term *Stricture* means any Thing, it certainly implies, either that the Fibres of the Tendon are more rigid than natural, or that the Diameter of the tendinous Opening is rendered smaller.—But in a strangulated Hernia, neither of these Events take place. The Borders of the Tendon are never more rigid, nor in a State of greater Stricture, than in those in Health, and who are not afflicted with

Ruptures;

Ruptures ; and it will invariably be found (except, perhaps, in a very recent Descent of a small Duplicature of Intestine) that the Diameter of the Opening will be more or less dilated ; an Event which could not possibly happen, unless the Fibres of the Tendon were preternaturally extended and relaxed. In old Ruptures, where the distending Force of the hernial Contents have gradually dilated the Border of the Tendon, the Opening has been rendered of a very extraordinary Size. The Term Stricture must give a young Surgeon the Idea either of Induration, or spasmodic Contraction.—The Fibres of Tendons are not much subject to Changes in their Texture, but the Contents of a Hernia are, from a Variety of Causes, liable to an Alteration in their Form. By straining, &c. a larger Portion of the intestinal Canal may be superadded to that already in the Tumor, and, until a Strangulation commences, the Fæces must pass through it.—They may be accumulated there : the mere Expansion of Air will distend the

the Intestine to such a Degree, that it may press against the Border of the Tendon and produce Uneasiness and Pain, and lay the Foundation for a Strangulation.—Whether the Contents of an Hernia press against the Tendon, or the Tendon against the Tumor, the Effects will be precisely the same. But very different will be the Success dependent upon the Mode of Treatment in this Disease. If the Surgeon be of opinion, that the Tendon presses upon the Tumor, his chief Intention must be to relax it.—But if he thinks that the Opening is already relaxed or dilated as much as it can be, by the Disease itself, he will clearly perceive that by reducing the Tumor to the same Size, it was previous to the Accession of the Symptoms ; by condensing the rarefied Air, repelling the Blood from the distended Veins, and pressing the Contents of the excluded Intestine into the Abdomen, he will have the best Chance of succeeding in the Reduction.

If

If one Plan is founded in Reason, the other is not. Whatever is calculated to relax Stricture must do Mischief; and if emollient and warm Applications are used to soften Parts, which, at that Time, will not dilate any more, they will certainly be pernicious. By increasing the Swelling they will eventually increase the Stricture, and what was theoretically intended to soften the Parts, will most effectually contribute to make them harder.

Whenever, in the Case of an intestinal Hernia, a Strangulation is occasioned, the Effects will be an Obstruction to that progressive Motion by which the Chyle is gradually propelled down the alimentary Canal, and the free Circulation of Blood through the secluded Part of the Intestine will be prevented.

From the universal Concurrence of the Opinions of medical Writers, it might be imagined that nothing could be better established than the Propriety of large and repeated Bleeding, in the early Stage of

strangulated Herniæ.—It is a Direction from which no Exception stands either with regard to Age, Sex, or Constitution.

The Intestine is said to be inflamed, and in a Part so necessary to Life, Venæfection to a large Amount is held forth as the most necessary Remedy.

But it may be suspected, that the indiscriminate Use of the Lancet will, in some Cases at least, be pernicious.—I have seen it often tried, but never with any Success:—Amongst the Symptoms produced by this Disease, we are told that a hard, quick, and large Pulse is generally occasioned; and that the Patient will be found hot and feverish.—I will not undertake to prove, that this State of the Pulse *never* occurs in a strangulated Rupture; but in the Cases which I have had an Opportunity of examining, the Patient has generally been in such a Situation, that I have thought any Evacuation of the Lancet must have been extremely prejudicial.

The

The most common Appearances produced by an intercepted Hernia are the following: The Tumor which used to be soft and yielding is hard and painful.—The lower Part of the Abdomen is also more tense than usual; the Patient is restless, pale, languid; *the Pulse is low*, and very often (though not always) *slower* than in Health; the Extremities are covered with a clammy Moisture. Respiration is slow, and interrupted with frequent Hiccough.—Worn out with Inquietude, Fatigue, and Anxiety, the miserable Patient cares not to speak, or if he does, he communicates his Ideas by broken and incoherent Sentences. If the Surgeon requires of him the History of his Case, he will perhaps tell him, that the Day before, while employed in the common Avocations of Life, he had a Pain in his Groin, and applying his Hand there, he found a Swelling, which, at some former Period, had given him Trouble, had returned. That he had, as usual, endeavoured with his Fingers to put it back, without Suc-

cess; that his Pain increased, and he was sick; that the Night had been passed in the utmost Distress.—Perhaps whilst he is thus recounting his melancholy Tale, he suddenly throws his Hand out for a Basin, but before he can reach it, the Contents of his Stomach are discharged upon the Bed-cloaths.

It may be alleged, that I have here described such Symptoms as occur after the inflammatory Stage is over, and when a Gangrene is either threatened or actually formed.—But this is by no means the Case.

There are no Symptoms by which a Surgeon can with Certainty be assured of the Existence of a mortified Intestine.—The Symptoms here described may be present, when the Parts are mortified, or not, as I am convinced by repeated Experience. All the Appearances may happen from what is called a slight Inflammation in the Intestine; and when they have been present in a very small Degree only, I have seen the

the Intestine completely gangrenous.—It seems to me, that what are called the Symptoms of a strangulated Hernia are not so much produced by the inflammatory or mortified State of the Parts, as by that Interception of the Gut, whereby its Office of conveying the Chyle or Fæces is impeded.—Soon after this happens, and when the peristaltic Motion is inverted, whether the Intestine is inflamed, or gangrenous, the Symptoms will be produced. These Symptoms in general are such as indicate immediate Debility in the vital Powers, and Distress and Dejection in the animal Functions.—If the Circulation is depressed and weakened by the Disease, why should we debilitate more by bleeding?—If the Arteries of the Part affected convey the Blood to it with less Force than usual, should that Force be reduced?—But perhaps it may be urged, that in some Diseases where the Circulation is depressed, bleeding makes it more free, quickens and enlarges the Pulse.—Admitting this to be a Fact, would it be right or proper to en-

32 O B S E R V A T I O N S

courage an increased Circulation in a Part already surcharged with Blood, whose Fluids are hindered in their Return to the Heart, by the Resistance they meet with from the Borders of the Tendon.

Let the Cause of the Strangulation be what it may, the Effects will be an Interruption to the Vermicular peristaltic Motion of the Intestine, and an Interception of the Return of the Blood from the Contents of the Hernia, the Veins being compressed by the Tightness of the Parts, will be swelled, and the contained Blood be accumulated.—The Blood of the Arteries will meet with some Difficulty in circulating through their minute Terminations in the venal System; the Vessels which in a healthy State transmit only the pellucid Fluids, will be dilated so as to admit the red particles, and many little Extravasations will be occasioned in the cellular Membrane.—The Resistance to the arterial Impetus will be every Moment increasing, whilst the Powers of the Heart are lessened by

by the Disease.—Hence the Circulation is sometimes wholly suspended, and a Gangrene very rapidly ensues.—Upon Dissection, the Intestine frequently appears red, the very minute Vessels are as conspicuous as if they had been filled with an Injection by the Anatomist.—Having this Appearance, it is said to be a sufficient Proof, that the Disease had been highly inflammatory, and therefore the Use of the Lancet had been strongly indicated.—Perhaps there is not a more common Error in Theory, nor any one that furnishes a more fruitful Source of mistaken Practice, than the Supposition, that when a Part appears *red*, it is therefore inflamed.—No Species of Inflammation is much more common than that of the Tunica conjunctiva of the Eye. It is attended with all the Symptoms of Inflammation, as Pain, Heat, Tumor, Pulsation, and an increased Motion of the Fluids through the Parts affected, or those that are in their immediate Neighbourhood. The Tunica Conjunctiva which should appear white is now

universally *red*.—Like other Inflammations this gives way to an antiphlogistic Treatment, and large and repeated Bleedings are necessary.—But very different is that Disease of the same Membrane of the Eye, where the Vessels of the Parts are so relaxed as to admit the red Particles of the Blood (*errore loci*).—The Eye is in this State *much redder* than in the true Inflammation, but the Pain and Heat are often very trifling, and the Method which is found successful in the genuine Inflammation, will be pernicious in this. The Velocity of the Blood not being increased in the Vessels of the Part diseased, it will be in vain to reduce the Force of the Circulation by bleeding.—The experienced Practitioner knows, that this Disease of the Eye is only to be cured by stimulating the dilated Vessels, and by contracting their Diameter till they refuse Admission to the Particles of red Blood.—In the strangulated Rupture also the secluded Portion of the Intestine looks red, not because the Velocity of the Circulation is increased through the Vessels

Vessels of the Part affected, but because the venal Blood is intercepted in its Return to the Heart by a Cause truly mechanical. The Disease itself lessens the Velocity of the Pulse, and yet the Symptoms are increasing progressively; but there does not appear a stronger Reason, why reducing the Force of the Circulation will not cure this supposed Inflammation, than its Continuance after Death, some time before which Period had taken place, no arterial Blood could have been propelled into the diseased Parts.—Dissection also informs us, that very frequently the Disease is so truly local, that the intercepted Part only of the Intestine appears of a red Colour, or is found in a gangrenous State.—It may be remarked also, that those Symptoms which are, in a strangulated Hernia, said to denote the inflammatory State of the Parts affected, exist equally certain in the weak and relaxed Habit of Body, as well as the robust; in those where habitual Debility mark relaxed Fibres, as in others whose Constitutions are subject to phlogistic Dia-

thesis.—The Changes of the Body, which are the genuine Consequences of Death, are often confounded with those Appearances that are supposed to denote the diseased State of the Parts whilst living. The Intestine is often found in Herniæ of a red Colour; and from thence it is declared to be inflamed; but this Appearance may be explained from that Interception to the Return of the Blood occasioned by the Border of the Tendon; it does not therefore necessarily prove, that an Inflammation had existed during Life, and it is impossible that Inflammation can exist in a dead Body.—When Putrefaction is far advanced, the intestinal Canal generally becomes of a red Colour, it may therefore be occasioned by Putrefaction, or many other Causes *. It has been before remarked,

* The ingenious Anatomist Mr. John Hunter has very judiciously observed, that “ An accurate Knowledge of the Appearances in animal Bodies that die a violent Death; that is in perfect Health, or in a sound State, ought to be considered as a necessary Foundation for judging of the State of the Body in those that are diseased.” “ But

marked, that the Symptoms attending these Cases by no means point out to us, with any Certainty, the State of the dis-

“ But as an animal Body undergoes Changes after Death, or when dead, it has never been sufficiently considered what those Changes are; and till this be done, it is impossible we should judge accurately of the Appearances in dead Bodies.—The Diseases which the living Body undergoes (Mortification excepted) are always connected with the living Principle, and are not in the least similar to what may be called Diseases or Changes in the dead Body: Without this Knowledge, our Judgment of the Appearances of dead Bodies must often be very imperfect, or very erroneous: We may see Appearances which are natural, and may suppose them to have arisen from Disease; we may see diseased Parts, and suppose them in a natural State; and we may suppose a Circumstance to have existed before Death, which was really a Consequence of it; or we may imagine it to be a natural Change after Death, when it was truly a Disease of the living Body. It is easy to see, therefore, how a Man in this State of Ignorance must blunder, when he comes to connect the Appearances in a dead Body with the Symptoms that were observed in Life: And indeed all the Usefulness of opening dead Bodies depends upon the Judgment and Sagacity with which this Sort of Comparison is made.” Phil. Transact. Vol. lxii. p. 447 and 448.

eased

38^o OBSERVATIONS

eased Parts: And I have ventured to declare an Opinion, that all, or most of them, are derived from the inverted peristaltic Motion of the Intestine producing immediate Debility, and those other intervening Symptoms, which, unless timely relieved, usually terminate in Death. The Dissection of the Tumor, both in the living and the dead, often corroborates this Opinion. When the Symptoms have been so urgent as to demand the Operation for the Bubonocele, it has been sometimes observed, that the Intestine has been only of a pale red Colour*; and (what is called) slightly inflamed;

* " In many Cases of strangulated Herniæ where the Operation has been the Means of Relief, although the *very worst* Symptoms have subsisted for several Days, yet, on laying the Parts open, no Appearance either of Inflammation or Gangrene have been detected." *Bell's System of Surgery*, Vol. p. 286.

" In many of those upon whom the Operation for the Bubonocele is successfully and timely performed, the Intestine seldom bears Marks of high Inflammation, unless the Operation has been long delayed; nor do the Symptoms of such Complaint usually attend afterward; the mortified Part often " does

inflamed ; and when the Disease has proved fatal, the same Kind of Alteration only has sometimes been remarked. In these Cases, the Death of the Patient can only be explained by the inverted peristaltic Motion immediately lessening the Powers of Life, and nothing can be more clearly evident than that large and repeated Bleedings, where there is no Inflammation to remove, must increase the Debility, and therefore do much Mischief ; and it may fairly be inferred, that as all the Symptoms of strangulated Herniæ happen with equal Violence, whether the Parts after Death are found inflamed, or not ; that the fatal Termination of this Disease cannot be imputed to Inflammation ; that the red Colour of the Parts must generally be considered as an accidental Circumstance,

“ does not exceed an Inch, or an Inch and a half, “ in Length, and is almost always confined to that “ Part of the Gut, which is on the Outside of the “ tendinous Opening, all within the Belly being “ sound and fair.” *Pott's Works, Quart. Edit.*
p. 286.

and

and when it does occur, it does not seem necessary to have recourse to Inflammation to explain it. Numerous, likewise, are the Cases which are recorded by the Writers of medical Observations, in which a small Portion of the circular Diameter of the Gut had been lengthened into Pouch, and engaged in a Stricture, which had proved fatal *. In these Cases, as the whole annular Substance of the Gut was not protruded from the Abdomen, the Event can only be explained by supposing that a certain Degree of Irritation had produced an Inversion of the peristaltic Motion. As soon as this happens, the vital and natural Functions are immediately disordered; from the constant Vomitings which ensue, no Chyle can be absorbed by the Lacteals, and superadded to that Dejection and Languor, which the Disease specifically

* Littré, *Mémoires de l'Acad. de Sciences*, 1700.

Méry, *Mem. de l'Acad. des Sciences*, 1700.

Medical Essays, Edinb. Vol. i. 183.

Mr. Amyand Phil. Transact. N° 443.

Mr. Elze Med. Observ. and Enquiries, Vol. iv. 334.

produces,

produces, the miserable Patient, although he often desires Fluids to satisfy his Thirst, labours under all the Effects of Inanition. When an incarcerated Hernia is reduced, the good Effects are sudden and immediate.—The Tension and Pain abate, the Patient becomes cheerful; his Features, before sunk and pallid, assume a more natural Complexion; his Pulse, which had been weak and slow, becomes now fuller and stronger.—This immediate Change can only be explained by supposing that the Blood from the surcharged Vessels of the Part lately intercepted, from a mechanical Cause, now finds a free Return to the Heart, and that the peristaltic Motion again assumes its natural Course.—Were the Symptoms occasioned by Inflammation, the good Effects could not have been so sudden, especially when it is considered, that from the Time the Parts are set at Liberty, the Blood from the Heart rushes upon the diseased Part with increased Velocity.—The Tumor pressing upon the Lymphatics, disturbs their Functions,

tions, and Absorption being thereby prevented, it is not uncommon to see an Hernia complicated with the various Kinds of Hydrocele, and hence also a Fluid within the Sac. is frequently collected.—Every Part of the intestinal Canal is certainly liable to Inflammation ; and it is possible, that the Portion of Gut lying in an hernial Sac, may be inflamed also, but this Case is very uncommon, and happens chiefly in large old Ruptures, where the Orifice of the Tendon is largely dilated, and where the Division of it by the Knife would give no Relief to the Patient *.—

* The celebrated Professor *Richter*, of *Gottingen*, has divided incarcerated Herniæ into three Species ; the first of these, he says, is occasioned by accumulated Fæces within the Intestine. He observes, that in large old Herniæ, this Circumstance is very apt to take place in the protruded Portion of the Gut, not only from the diminished Tone of the Part, but also from its being deprived of the expelling Power, occasioned by the Contraction of the abdominal Muscles.—As soon as this Accumulation happens, the Hernia increases in Size, the Belly becomes costive, and at length Pain, and the other usual Symptoms of a strangulated Hernia succeed. *Observ. Chirurg. Dissert. de Herniis.*

The

The Symptoms of this Disease are much like those produced by a strangulated Intestine, but they require a very different Mode of Treatment. — The peristaltic Motion is inverted in both Cases. In the Inflammation of the Intestine, the Pulse is often full, and the Patient feverish; hence large and repeated Bleedings are necessary, with other Remedies, for Inflammation.—The warm Bath is often useful, as it often happens, that the Tendon makes no unusual Pressure upon the Parts, neither its Division, or the Reduction of the Tumor into the Belly would procure any Relief to the Disease. My ingenious Friend Mr. *Alanson*, of Liverpool, to whom we are much indebted for improving the operative Part of Surgery, has, at my Request, directed his Attention to this Point. He informs me, “ as to bleeding “ in strangulated Herniæ, it has been the “ constant Practice here * to use this Eva-“ cuation, *ad deliquium*; to produce which “ sooner, the Discharge has been made by

* Liverpool.

“ placing

“ placing the Patient in an erect Position.
“ —As soon as the Deliquium happened,
“ the Taxis was tried during that Stage,
“ but I never saw this Method successful,
“ nor do I think bleeding ever of the
“ *smallest Service* in forwarding Reduction.”

“ In the Year 1775, a man, aged 22,
“ of a robust Constitution, was brought
“ into the Infirmary, with a scrotal Her-
“ nia, somewhat larger than his Hand ; it
“ extended, and was large up the abdo-
“ minal Ring : He had been afflicted with
“ a small Hernia many Years, which he
“ had neglected ; and this Addition to
“ the Complaint was occasioned by his
“ straining to lift a heavy Weight.—Two
“ Days had elapsed before I saw him ;
“ the Tumor was very tense and tender
“ to the Touch ; he was now *bled ad-*
“ *deliquium* ; and that this might take
“ place with more Certainty, he was placed
“ in an erect Position : The Deliquium
“ happened when he had lost a Quart. of
“ Blood. He was now immediately placed
“ in,

“ in a favorable Posture for Reduction,
“ and every reasonable Attempt to return
“ the Contents of the Tumor were tried
“ ineffectually, and manual Efforts were
“ made, whilst different Positions were
“ employed without Success.”—Mr. *Alanson* recovered this Man by the Knife.—
Having reflected much and long upon
this Subject, I can entertain no Doubt,
that lessening the small Remains of Strength
which the unfortunate Sufferer of a stran-
gulated Herniæ has, by this absurd Prac-
tice, is extremely unfavorable for his Re-
covery, should the Operation, as will ge-
nerally be the Case, if other Methods are
not more successful, be the only Resource.
—Most of the Patients who are brought
into public Hospitals die after this Opera-
tion, and upon Enquiry (whatever other
Means have been employed), we are told,
that they have been *largely* and repeatedly
bled.

It very often happens, that the Open-
ing of the Tendon is so much distended,
especially

especially in Ruptures of long Continuance, that the Gut does its Office of transmitting the Fæces in the Scrotum, and no great Pressure being made against that, or the Omentum, the Circulation of the Blood through the prolapsed Parts is not interrupted ; and People, under such Circumstances, pass through Life without any great Inconvenience from this Complaint :—But it should ever be remembered, that from a Variety of Causes the most alarming Symptoms may ensue, and therefore a Patient, having a Rupture, can, in no possible Situation, be said to be secure from Danger. Every Kind of Hernia should, if possible, be immediately reduced, and the Parts prevented from receding by a proper Bandage.—When the Reduction of the Tumor is difficult, or when Uneasiness, Pain, or unusual Tension of the Parts supervene, not a Moment should be lost ; for the Cause and Effects of the Strangulation co-operate with each other, and the Difficulty of returning the Intestine, &c. is continually increasing.—

The

The first Thing usually attempted by the Surgeon, if his Assistance is had early in the Disease, and before great Pain or violent Tension render it improper, is Pressure.—By a gradual and well-regulated Pressure, with his Fingers, upon the upper Part of the Tumor, he will very often reduce its Size ; the Contents are by Degrees pressed through the Opening of the Muscle, and a speedy Reduction is often the Consequence.

—This Method will be assisted by the Position of the Patient's Body. Some tendinous Fibres of the external oblique Muscle run down the anterior and upper Part of the spermatic Chord, and others communicate with the Fascia of the Thigh.—When the Thigh of the affected Side is bent, these tendinous Fibres will be relaxed and put into a State of Non-resistance.—The Hips should be raised higher than the Shoulders, because, in this Situation, the Intestine may assist in drawing the excluded Portion of the Gut out of Groin.—Or, perhaps, this Purpose will be better answered by suspending the Patient's

tient's Legs over the Shoulders of a strong Man.—This Method, Mr. *Sharpe* * tells us, has often succeeded, when other Attempts for Reduction have been ineffectually made.—If the Surgeon is not sent for, till after the Symptoms have made a considerable Progress, he should handle the Parts with great Caution and Gentleness, because at that Period it is probable the Intestine will be much loaded with Blood, and distended with Air or Fæces ; and in this Situation much Pressure would answer no other Purpose than to accelerate the approaching Gangrene.—In endeavouring to return the Intestine, the Pressure should be directed obliquely outward.—If the Tumor will not give way to Pressure, or if the Parts are in such a State as, in the Opinion of the Surgeon, to render the Attempt improper, it will then be adviseable to try the Effects of cold Applications, by which the Tumor will often be so much lessened, that a Repetition of the Pressure (which before had failed) will

* *Sharpe's Crit. Enq.* p. 21.

now

now be found effectual.—I have often observed, after cold Applications have been used, that the Sensibility of the Parts is diminished, and the Patient will bear a greater Degree of Pressure without complaining, which before would have occasioned the most distressing Uneasiness.—In my Cases and Remarks in Surgery, I have endeavoured to explain the Manner in which Cold acts upon strangulated Herniæ, and repeated Experience has amply proved the Utility of the Practice.—I have used and recommended a Mixture of Vinegar and Water for this Purpose, but that Mixture having been found to possess a less Degree of Cold than either of them uncombined, I now prefer either Vinegar alone, or a Solution of crude Sal Ammoniac in the coldest Water, which can be procured.—It is observed, that neutral Salts, while in the Act of Solution, produce a remarkable Degree of Cold, it might, therefore, be useful to cover the Parts first with the Powder of crude Sal Ammoniac, and afterwards apply cold Water.

ter.—By this Method, I have frequently succeeded in reducing strangulated Hernia, and at a Period of the Case, when it was imagined the Operation for the Bubo-nocele had been indispensably necessary.—The ingenious Physician who has communicated to me the following Case, has furnished a strong Proof of the Efficacy of cold Applications in a Case, where many other Methods had been ineffectually employed.

An Account of the Reduction of a strangulated Hernia by cold Application, in a Letter from Dr. Storer, of Grantham, in Lincolnshire.

“ Sir,

“ I can have no Doubt
“ that your own Practice must have fur-
“ nished you with many undeniable Proofs
“ of the Utility of the Method lately re-
“ commended by you in treating incarce-
“ rated Herniæ. The Cases you have
“ published

“ published are conclusive, yet I am per-
“ suaded it will not be disagreeable to you
“ to be possessed of the following addi-
“ tional Testimony in its Favor:—Some
“ Weeks since I was desired to visit the
“ Wife of a Butcher in this Town, who
“ had, for many Years, been subject to a
“ Hernia inguinalis of the right Side,
“ which she was in use to reduce herself,
“ and was, in general, supported by a
“ Truss of her own Contrivance.—I found
“ her labouring under all the Symptoms
“ of strangulated Hernia in the most ex-
“ treme Degree. She had violent Pains
“ extending from the Part toward the
“ Region of the Stomach, and through
“ the whole Abdomen, which was tense
“ and sore to the Touch:—frequent vo-
“ miting of fœtid Matter, and obstinate
“ Costiveness. The Tumor itself was
“ harder than I had ever seen in similar
“ Cases, and so sore from the frequent At-
“ tempts which the Surgeon had made to
“ reduce it, that it was necessary to avoid
“ all further handling of the Parts. She

“ had already been upwards of fifty Hours
“ in this State. — Warm Fomentations,
“ emollient Poultices, and the general
“ Remedies, commonly in use, had proved
“ ineffectual. In this Situation, before
“ proposing the Operation for the Bubo-
“ nocele, which, but for your Method,
“ I should have done immediately, I re-
“ solved to give a Trial to cold Applica-
“ tions, and in order to aid that Collapse
“ of Vessels by which, I presumed, they
“ were to operate, I directed bleeding to
“ be *repeated* to such amount as I thought
“ my Patient still able to bear. After
“ this, thick Compresses of Linen dipt
“ in Vinegar and Water cold were to be
“ applied to the Tumor, and frequently
“ repeated. The Bleeding procured no
“ Relief; a purgative Glyster which had
“ been injected, returned without Effect.
“ —But, happily, after the Application
“ of the fourth Compress, the Tumor
“ suddenly and *spontaneously* returned into
“ the Abdomen. The Pain and Vomiting
“ soon ceased, and a gentle Laxative next
“ Day

“ Day restored her to a perfect State of
“ Health, which she still enjoys.

“ I am so entirely satisfied, that the
“ good Effects, in this Case, were solely
“ owing to the cold Application, that I
“ am resolved, upon every future Occa-
“ sion, to have recourse to it.

“ As there is good Reason to believe,
“ that Applications will operate with more
“ or less Power, in proportion to their
“ Coldness, and we know that artificial
“ Cold may be produced when there is no
“ Snow, I thought it worth while to de-
“ termine, with Exactness, what Mix-
“ tures or Solutions might be employed
“ with the greatest Prospect of Success,
“ in case Water of the common Tempe-
“ rature should fail. The Result of these
“ Trials made in an airy Room, without
“ Fire, and with a Pocket Thermometer,
“ graduated to *Fahrenheit's Scale*, was as
“ follows :

| | | | | | |
|---------------------------------------|---|---|---|---|-----|
| “ Air in the Room | - | - | - | - | 57° |
| “ Simple Water | - | - | - | - | 49 |
| “ Vinegar and Water, equal Parts | | | | | 50 |
| “ Saturated Solution of crude Sal | | | | | 42 |
| “ Ammoniac in simple Water | | | | | |
| “ Solution of Sal Ammoniac in Vi- | | | | | 45½ |
| “ negar and Water | - | - | - | - | |
| “ Solution of Nitre in simple Water | | | | | 43 |
| “ _____ in Vinegar and | | | | | 46 |
| “ Water | - | - | - | - | |
| “ Solution of SeaSalt in simple Water | | | | | 46 |
| “ _____ in Vinegar | | | | | 50 |
| “ and Water | - | - | - | - | |

“ These Solutions, though they gradually approached to the Temperatuirre of the Air in the Room, preserved their relative Degrees of Heat for a full Hour after the Experiments were made. From the Result it appears, that a saturated Solution of crude Sal Ammoniac in simple Water, as producing the greatest Degree of Cold, is the best adapted to the Purpose in question; and though it may be proper to use it fresh dissolved, I have-

* I have observed, that, except it be kept
in a very warm Room, it preserves
longer its lower Temperature than other
Fluids; a Property upon which its Ef-
ficacy, as a Discutient, not improbably
depends. I cannot account for all the
Mixtures, into which Vinegar entered,
being the hottest, I can only say, that
it was the reverse of what I expected.

“ I am, &c. &c.

Grantham,
13th of May, 1780.

“ JOHN STORER.”

The above recited Case clearly proves the Efficacy of cold Applications, in the Reduction of strangulated Herniæ. This Method succeeded after the Symptoms had continued in a very alarming Degree during fifty Hours, and after large Bleeding, manual Assistance and the other usual Methods had been tried ineffectually;— indeed, the Relief of the Patient can be attributed to nothing else than the cold

Applications.—Since the Publication of some Instances * of the Effects of Cold in the Reduction of strangulated Herniæ, I have been, by Experience, confirmed in the good Opinion I then entertained of this Mode of Practice.

Mr. *Alanson*, in a Letter I have received from him, says, “ I have met with three Cases of strangulated Herniæ since I wrote to you last; they had been mismanaged, that is, the Patients had been poulticed, fomented, or had taken strong Purges. They were all easily reduced by cold Applications, and afterwards the Assistance of the Hands. I am clearly of Opinion, that when Reduction can be accomplished without the Operation, Cold is the best Preparative and Assistant we can employ; that more Cases will yield to this Application and the Tobacco Glyster, than to every other Means. That when warm Fomentations and Poultices have been

* See Cases and Remarks in Surgery, p. 13.

“ used

“ used unsuccessfully, assisted by bleed-
“ ing, the warm Bath, common Glysters
“ and Purgatives, which are the Means
“ still employed by some Surgeons, we
“ may frequently succeed by the Appli-
“ cation of Cold. This seems to have a
“ peculiar Property of allaying the Ten-
“ derness of the Parts, of diminishing the
“ Bulk of the Tumor, and enables us to
“ apply the Taxis in Cases which, before
“ this Application, would not admit of
“ the least Assistance in this Way.—I
“ have heard of two Cases, in which cold
“ Applications have been found success-
“ ful; in the first, the Patient’s Case was
“ so deplorable, that he was placed on the
“ Table, with a View to the Knife; the
“ other happened in Lancaster, to which
“ Mr. *Baxendale*, a late Pupil of mine,
“ was called, and succeeded by cold Ap-
“ plications.—The following Case, which
“ I have received from Mr. *Blundell*, Sur-
“ geon of this Place, will, I doubt not,
“ give you Pleasure:—August 4, 1784, I
“ was desired about Eleven in the Fore-

“ noon, to see a poor Man, aged 53 Years,
“ who had been labouring under a stran-
“ gulated Hernia since three Days before.
“ At my Arrival, the Account I received,
“ was, that he had been visited by another
“ Gentleman about seven o’Clock the pre-
“ ceding Evening; that most of the ordi-
“ nary Means in these Cases had been
“ made use of, such as *bleeding ad deli-*
“ *quium*, Castor Oil, Glysters, warm Bath,
“ Fomentations, &c. without Effect; and
“ afterwards repeated in the Morning to
“ as little Purpose. Fearing the ill Con-
“ sequences that were likely to follow any
“ further Attempts in the same Way, on
“ Account of the particular tender State
“ of the Parts, I altered the Plan from
“ the warm to the cold Applications, viz.
“ by pouring large Basons full of cold
“ Water upon the Part, till it began to
“ lose its chilling Effect, which was in
“ about three Quarters of an Hour.
“ This Method answered my most sanguine
“ Expectations, not only in very consider-
“ ably diminishing the Bulk of the Tu-
“ mor,

‘ mor, but likewise by enabling me to
‘ handle it without the smallest Inconve-
‘ nience, which just before he was scarce-
‘ ly capable of bearing the Weight of
‘ my Hand. I now put in Practice the
‘ common Means by the Hand, which
‘ are generally made use of in these Cases,
‘ and was so fortunate, in about two
‘ Hours, to effect my Purpose, which I
‘ must, in a great Measure, ascribe to
‘ the very good Effects the Cold had
‘ upon it.’

The Utility of cold Applications in the Reduction of strangulated Herniæ, is now so well established, that it seems unnecessary to adduce any more Instances in its Support, though many have occurred in my Practice: the two following Cases are related to prove, that cold Applications *alone* will not always succeed, without employing other Means in conjunction with them.

May 28, 1787, I was called upon by Mr. Freer, Surgeon of this City, to visit Mr. W——, who had a strangulated Rupture. — The Descent happened two Days before, since which Time he had had no Stool.—The Symptoms were, a Soreness of the Abdomen, Hiccough, a frequent Rejection of the Contents of the Stomach,—great Prostration of Strength, Thirst, brown Tongue, an anxious Despondency in his Countenance, and his *Pulse weak, and remarkably slow.*—At nine o’Clock in the Morning, we directed Compresses to be applied to the Part affected, and frequently renewed, dipped in the coldest Water that could be procured, in a Quart of which was dissolved an Ounce of crude Sal Ammoniac.—Pills of Extractum catharticum Calomel, and Opium, were given every Hour, and a Glyster was injected, composed of an Infusion of two Drachms of the Leaves of Tobacco, in eight Ounces of Water.—At twelve o’Clock I visited him again.—The Tumor was reduced in its Dimensions; his Countenance

enance had resumed its natural Appearance; he had lately passed a Stool, and believed he should soon have another. Although the Tumor was smaller and softer, it was found, upon Trial, to be irreducible.—The cold Applications were continued, and another Injection was ordered.—At eight o'Clock in the Evening, he was much in the same State as before.—The Hiccough was more frequent; and the Attempts that were then made to return, the Contents of the Hernia were as ineffectual as before.—Ordered a Draught, containing thirty Drops of Tinctura Thebaica.

At six o'Clock the next Morning, we found no material Change.—The cold Application and Pills were continued.—At nine in the Evening the Patient was free from Danger.—The Hiccough, we were told, had been troublesome the greatest Part of the Day; that about an Hour before we saw him, he had desired some Sago, after which he vomited violently; and he then perceived the Rupture was reduced,

reduced, which, upon Examination, we found to be the Case.—This Tumor appeared to be an Entero-epiplocele.—The Intestine was reduced the first Day of our Attendance, when most of the bad Symptoms left him.—The Hiccough was occasioned by the imprisoned Omentum, which, by the violent Contraction of the Stomach in vomiting, was at length disengaged.—It frequently happens in mixed Ruptures, after the Intestine is set at Liberty, that the Omentum contracts Adhesions, and remains ever after irreducible, as in the following Case :

A Gentleman had for some Years been subject to a Bubonocele, the Descents of which were always preceded by a Retraction of the Testicle on that Side into the Groin.—He perceived this one Day when he was riding on Horse-back, and finding the Rupture was down, he made an immediate Attempt to reduce it, by placing himself on his Back, but without Success.—It became painful, and a Strangulation ensued.

ensued. Mr. *Bucknell*, Surgeon of Rugby, was called upon to assist him, and who tried several Methods to relieve him, but without Success.—February 23, 1786, I was desired to attend him with Mr. *Bucknell*.—The Tumor was hard and painful.—Salt-petre dissolved in Water was applied cold to the Part, and the Smoke of Tobacco was ordered to be injected into the Rectum.—In the Evening, there was no other Change than that the Tumor was less painful.—The Tobacco Smoke had not been applied, the necessary Apparatus for which not being procured before this Time.—It was now tried, and before it had been used half a Minute, the Patient called for the Close-stool, had an Evacuation, which relieved all the Symptoms: Part of the Tumor had receded into the Belly, but the rest was in the Scrotum, and has remained ever since irreducible.—It may be said, that the Tobacco Glysters were the Means of Success in both these Cases.—Without Doubt they had their Share, but I believe, that unless the

64 O B S E R V A T I O N S

the Bulk of the Parts composing the Herniæ had been previously reduced by the cold Applications, it would not have succeeded in either.

It frequently happens, that after the first Trial of cold Applications, the Surgeon is disappointed in his Attempts to reduce the prolapsed Parts, but a Perseverance in the same Method for some time longer will enable him to succeed.

September 19, 1787, I was desired to meet Mr. *Williams*, a Surgeon of Rugby, at Woodscott, in the County of Warwick.—The Patient was a middle aged Man, with a crural Hernia on the left Side.—He had laboured under the Symptoms of Strangulation eight and forty Hours; and during the whole of the preceding Day, had been under the immediate Care of Mr. *Williams*.—Cold was applied to the Part during the whole of that Day, and Attempts made by the Hand for Reduction without Success.—Mr. *Williams* ordered

ed the Continuance of it during the Night, and when we visited the Patient together in the Morning, there was nothing to be done but to order a Truss, the Rupture having been spontaneously reduced some Hours before we arrived.

After having bathed the Part about a Quarter of an Hour with a Solution of crude Sal Ammoniac in the coldest Water which can be procured, the Surgeon should endeavour, by a gradual Pressure made in the Manner before directed, to return the Contents of the Tumor into the Abdomen.—If he does not succeed immediately, it will be prudent, before he advises the Operation, to wait a few Hours, during which Time the Application of Compresses, wetted with the cold Solution, should be unremittingly made to the Part affected.—During this Interval, also, it will be proper to assist the external Endeavours to reduce the Size of the Tumor, by exciting an Increase of the peristaltic Motion of the Gut, whereby it may be ex-

extricated from its Confinement, and drawn into the Cavity of the Abdomen. Surgeons have endeavoured to fulfil this Indication in two Methods, neither of which can, with much Propriety, be used, if the Symptoms of a strangulated Hernia were occasioned by a *true Inflammation* of the Intestine.

It is an Observation as old as the Time of *Celsus*, that lenient Cathartics increase the Size of Ruptures, and distend the Abdomen.—The Experience of succeeding Ages has found this to be true, and perceiving that those Purgatives which solicit the Juices into the intestinal Canal without much Irritation, add to the Load, and therefore do Mischief; the Moderns employ more drastic Medicines, with a View to stimulate the Intestine into more forcible Contractions.—In nine Cases out of ten, it will be found, that whatever cathartic Medicines are employed, whether they are mild or irritating, the Stomach will reject them, and the inverted peristaltic

altic Motion (should they pass the Stomach) will, in general, prevent their having any Access to the Part affected.—However, as something in this Way must be attempted, whenever I have not succeeded in the first Endeavours, I have generally directed some Pills, composed of Venice Soap, Socotorine Aloes, and Calomel, which will have a better Chance of passing through the Stomach than any fluid Medicine whatever.—From an Attention to the Symptoms of strangulated Herniæ, it should seem, that the peristaltic Motion of the intestinal Canal, *above the imprisoned Part*, is inverted, and, below it, totally suspended.—After the Accession of the Pain and Vomiting, the Patient never passes a Stool without the Assistance of Art; if a common Glyster is injected, the Contents of that Part of the Canal below the Strangulation will, in general, be easily discharged.—But this procures no Kind of Relief. However, as it is probable, that stimulating the lower Part of the Gut will be as likely to extricate the excluded Portion, as

stimu-

stimulating the upper Part, and as Stimulants, thus used, can, with more Certainty, be applied nearer the Seat of the Disease, they may be injected by the Anus with a more rational Prospect of Success: No Stimulus has hitherto been used for this Purpose, with more Advantage, than the Fume of Tobacco injected into the Rectum.—So efficacious was this Application, in the Hands of the celebrated *Heister*, that in a very long and a very extensive Practice, it always succeeded, and he never once had Occasion to perform the Operation for the Bubonocele.—Succeeding Practitioners have not been so fortunate: there will be Cases where no Method hitherto known, but the Knife, will save the Life of the Patient. The Injection of the Smoke of Tobacco having, in some desperate Cases superceded the Necessity of the Operation, it should always be tried, before that is recommended.—A common Glyster should be given before the Smoke of Tobacco is used.—In several Cases of the Ileus, I have seen Blisters

Blisters applied to the Abdomen succeed, when every other Method had failed; and by their Stimulus upon the Neck of the Bladder and Rectum, the peristaltic Motion was (if I may be allowed the Expression) re-inverted.—Perhaps, upon the same Principle, Blisters applied upon the Belly would be found useful in strangulated Herniæ.—I have not yet tried this Method, and therefore cannot recommend it from Experience.—The Objection to this Practice is, that many Hours must elapse before the Blister can be supposed to irritate the Neck of the Bladder and Rectum, and, therefore, before any good can be expected from its Use, the Patient, by the Delay, may be in such a State as to be irrecoverable by any Method whatever.—But if the Stimulus of Cantharides should be found useful in this Disease, a watery Infusion of them may be injected into the Rectum, and a Suppository sprinkled with their Powder may be applied, for a short Time, within the Rectum.

After

After the Reduction of the Tumor, the Symptoms in general immediately abate, and when it is considered from what a deathlike Situation, the Patient has just escaped, it is really astonishing how very soon he recovers his Health and Spirits.— His Pulse is remarkably increased in its Strength; and one might theoretically imagine, that the Intestine, loaded as it is with Blood, which had distended and burst its Vessels, exposed now to a more violent Impetus from its arterial Blood, must be more subject to the Cause of Inflammation than before.—But Experience proves, that the Symptoms of Inflammation are not the Consequence. However, should it happen, that the Pain continues, and any feverish Symptoms supervene after the Reduction (a Case which I must confess I have never seen), then bleeding and the antiplogistic Plan of Treatment will be clearly indicated.— At all Events, however, the Patient should pay great Attention, for some Days, to his Diet, and be confined to mild liquid Aliment; I have often

often thought it prudent to direct a Solution of Castor Oil, dissolved with the Yelk of an Egg, and made into an Emulsion with Peppermint Water, and this has been continued till there have been several Stools procured.—If the Method here recommended has been ineffectually pursued, and the Surgeon finds, that notwithstanding his second Attempt to reduce the Parts, he does not succeed, there seems to be no other Chance of Recovery, but that which the Knife will afford.

Chirurgical Writers have described that State and Degree of the Symptoms, when the Operation for the Bubonocele should be recommended;—they have also acquainted us, that certain Effects are produced by the inflammatory State of the Parts, and others as certainly demonstrate a Gangrene is either approaching or absolutely formed. Now could these Symptoms and these Appearances exactly point out the State of the Parts composing the Tumor, the Surgeon would thereby be re-

relieved from much Embarrassment. To be convinced of the absolute *Necessity* of performing any hazardous Operation, is a very desirable Thing in the Practice of Surgery. It happens, however, in the Cases of strangulated Herniæ, that all the Rules laid down for this Purpose are uncertain and fallacious. Neither the Kind nor the Duration of the Symptoms, whether separately or collectively considered, will, with Certainty, point out whether the Intestine is in such a State as to give the Patient any Chance of Recovery from the Operation.—I have seen the most violent Symptoms, which had continued several Days, disappear after the hernial Contents have been returned into the Abdomen by cold Applications, and the following Case will prove, that a true Mortification of the Intestine may be produced in a few Hours, attended with such slight Symptoms, which could scarcely be supposed to denote, that the secluded Portion of the Gut had received any material Injury.

No-

November 10, 1780, I was sent for to consult with Mr. *Barker*, an eminent and ingenious Surgeon at Colehill, in the Case of a Man about fifty Years of Age, of a good Habit of Body.—I was acquainted, that he, some Years before, had a Rupture, which he had often reduced himself, but that its Return became at one Time difficult, and the Swelling giving him Pain, he had recourse to Mr. *Barker's* Assistance, who relieved him, and reduced the Rupture.—After this Time, no Descent happened till the Day before I visited him.—He was then digging in his Garden, and he perceived a Return of his old Complaint.—He went to bed, and endeavoured to push the Swelling up, as usual, but he could not succeed, and the Attempt gave him Uneasiness. He applied to Mr. *Barker*, who endeavoured, by various means, to procure a Return of the hernial Contents without Success.—Upon Examination I found the Tumor extremely hard, the Patient had some Uneasiness in the Abdomen, and now and then appeared

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sick.

sick.—His Pulse was also, in Force and Velocity, below the healthy Standard.—Exclusive of these Symptoms, there were no other Appearances that denoted Danger, either immediate or remote.—We bathed the Tumor well with a Solution of crude Sal Ammoniac in cold Water; after which Mr. *Barker* and myself made frequent Attempts, by manual Assistance, to pass the Contents through the Opening of the oblique Muscle, but without Success.—Disappointed in these Endeavours, and unwilling to leave the Patient, who lived a considerable Distance from me, in a State of Insecurity, with his Surgeon's Approbation, I proposed the Operation.—It was immediately performed.—The Intestine was found black and completely gangrenous, and the Patient died the succeeding Night.

As no Certainty, therefore, can be derived from the Symptoms, relative to the State of the Parts within a Hernia, the most rational Method will be to propose the

the Operation, as soon as the Attempts which the Surgeon has made for the Reduction have been found useless.—Whenever it is apparent, that no other Plan, but the Operation, will succeed ; the sooner it is performed, the Chance of Recovery will be greater.—In general the Operation is deferred too long, and it should always be remembered, that the Intestine may be found mortified, without any particular Symptoms of *Inflammation* preceding it.

In the Operation, it is still a Practice, with many Surgeons, to draw up the Skin before the first Incision is made, but this surely must be quite unnecessary to a Man used to Dissection (and no other should attempt this Business).—In old Ruptures, the hernial Sac is often much thickened, but in recent Descents of Intestine, the Sac is generally thin, and therefore the Operator should often examine, with a Probe, whether he has divided the Sac.—We are told, that, upon dividing it, a Quantity of Fluid will rush out, and though

76 O B S E R V A T I O N S

this is often the Case, it should be remembered, that sometimes the Intestine is in contact with the Sac, and therefore, unless the latter is divided in the most cautious manner, there must be some Danger of wounding the Gut *.—In the female Sex, the hernial Sac, in the Bubonocele, is *immediately* under the Skin, and on that Account the Dissection should be conducted in the most guarded Manner.—If, upon dividing the Sac, the Omentum presents,

* A considerable Quantity of Fluid is sometimes found in the hernial Sac. The late Dr. *Monro* relates a Case, where the Quantity of Water contained in a Sac was six Pounds. *Saviard* and *Le Dran* give different Cases of this Kind. *Heister* calls it Hydro-enterocele. Vide *Douglas* on the Hydrocele, Mr. *Pott* on the Hydrocele. *Monro*'s Works, p. 579. In *Bell*'s System of Surgery, p. 465, Vol. i. are related two Cases of this Kind, mistaken for Hydrocele.

Mr. *Alanson*, also, informs me, that he has frequently observed a large Quantity of Fluid within the hernial Sac.

This Species of Hydrocele is particularly described by many Surgeons of the present Age, and it was also known to the Ancients.—An Account of it is to be found in the Writings of *Ægineta*, *Albucasis*, and afterwards of *Fallopis* and others.

it

it should be carefully unfolded, as a Portion of Intestine is frequently hid in it.

Should the Omentum be diseased, it may very safely be removed, as I have found in several Instances *. Before any Attempts are made to reduce the Intestine, the Stricture, as it is called, should be divided with the Knife.—When the superior Edge of the tendinous Opening of the external oblique Muscle is divided, with a probe pointed curved Bistory, obliquely outward and upward, the Surgeon should endeavour to pass his Finger into the Abdomen, and if he finds a Contraction in the Neck of the Sac, that also must be divided before any Attempts are made to reduce the Intestine.—Then that

* Several Cases of bad Effects resulting from Ligatures upon the Omentum, are related by Monsieur Pipelot, *Mem. de l'Acad. Royal de Chirurg.* Tom. iii. and by Mr. Pott, in his Treatise upon Herniæ.

When the Contents of the Hernia are returned into the Abdomen, if the Sac is thickened and diseased, it will be advisable to cut off the lateral and anterior Parts.

Part of the Gut which is next the Abdomen must be returned first, and the Operator should press his Fingers rather upon the Mesentery than the Intestine, for Experience has proved, that when it has been much distended, it is very tender, and may be ruptured*.—When it is necessary to remove any Part of the Omentum, there will be no Occasion to pass a Ligature, but if the Surgeon chooses to do it, if he is careful that no Part of the Intestine is included, it is not probable that any particular Inconvenience will arise from it.

In operating for the Bubonocele, we have been directed to avoid the epigastric Artery, but this Caution appears unnecessary, as that Vessel is at a Distance from those Parts which ought to be divided.

In the Hernia Femoralis, whether the Incision of Poupart's Ligament is carried

* From not attending to these Cautions, I have twice seen the Intestine ruptured, when it was not in a gangrenous State.

outward

outward or inward, there will be Danger of wounding either the spermatic or epigastric Artery; to avoid these, the Surgeon should conduct the Point of the curved Bistury upon the Point of his fore Finger, and the Ligament should be divided upward, and as the Tumor, in this Case, is not generally large, a small Degree of Dilatation will, perhaps, be sufficient for the Reduction of the Intestine.—Mr. *Arnaud* contrived a broad Hook to stretch the Ligament, which may be tried before recourse is had to the Knife *.

If the Intestine is found in a mortified State, it will be proper to confine it from receding into the Belly, and for this Purpose a Ligature should be passed through the Mesentery, by which it may be con-

* This Species of Hernia is often hard and small, and being found in the Neighbourhood of the lymphatic Glands, is sometimes mistaken for a glandular Tumor; a very remarkable Case of this Kind, which terminated fatally, is related by the late Mr. *Else*, in the medical Observations and Enquiries, Vol. iv. p. 355.

80 O B S E R V A T I O N S

neeted with one of the Sides of the Incision.

The Writers of medical Observations * have recorded many Cases, where the Patient has recovered after a mortified Intestine, but they bear a small Proportion to those in whom it has proved fatal †; indeed this State of the Intestine must generally be expected to have a fatal Termination, if the Disease extends within the Abdomen.—In all those that have

* *Morand, de la Faye Not. sur Dionis*, p. 55. *Mery, Mem. de l'Acad. des Sciences*, 1701. *Cheselden's Anatomy*, 69. *Le Dran, Obs. 60. Courtial Obs. 66. Med. Essays, Edinb. Vol. i. Art. 20. De la Peyronie, Mercure de France, Juillet. 1732. Ram-dobrius, Commerc. Norimb. 1731. De la Peyronie, sur la Cure de Hernies avec Gangrene. Mem. de l'Acad. Royale de Chirurg. Tom. i. p. 337. Dionis 352, 354. Heister, 818. Bell's System of Surgery, Vol. i. 328.*

† The celebrated *Rau*, in opening a Hernia, finding a Gangrene of the Parts, laid down his Knife, and proceeded no farther in the Operation, abandoning his Patient, who died the next Day. *Heister's Surgery*, p. 816.

escaped,

escaped, it is probable, the Gangrene was local and absolutely confined to that Part of the Gut external to the abdominal Aperture.

When the Intestine is found in a mortified State, if the Patient should be so fortunate as to recover, the diseased Portion of the Gut must separate from the sound Part, and for a considerable Time the Fæces will be discharged through the Wound.—We have been informed, that in the Generality of these Cases the Fæces must be expelled during the Patient's Life, but Experience has proved that the Event is sometimes more fortunate, and that this very disagreeable Situation is not necessarily the general Result.—Let the Quantity of the protruded Part of the Intestine in a Rupture be what it may, and should the whole of that Portion mortify and slough off, the Opening through which it passed is small, and therefore both the Ends of the Gut must be in contact, or nearly so; and sometimes, also, it fortunately hap-

pens, they adhere to the Neck of the Hernial Sac.

In the Process of Healing, the Wound every Day contracts its Sides, and, with them, the Edges of the Intestine approximate, till, at length, they may either coalesce, or unite in such a Manner with the Cicatrix, that the Continuation of the Canal may be preserved, and the Fæces discharged at the Anus.—The Cases which I have seen of Recovery from mortified Intestine terminated in this Manner, and the Wounds were completely healed without any succeeding Inconvenience.

June 21, 1771, I was desired to visit Mrs. S———, of this City, aged seven and forty.—A few Days before she had been seized with Symptoms of Colic, which she had been subject to.—She was much reduced, vomited often, complained of Pain in the Abdomen, her Pulse intermitted, and, upon the whole, the Case appeared extremely dangerous.—She informed

ed me, that she had a Rupture at the Navel, which, on Examination, was found tense, and a livid Slough of the Size of a Shilling occupied the Center of the Tumor.—My Friend, Dr. *Simson*, an eminent Physician of this City, directed such internal Remedies as the Case seemed to require, and to the Tumor was applied a warm antiseptic Fomentation.

22d.—The Patient was nearly in the same State as on the preceding Day, only the Slough had extended its Dimensions, and was beginning to separate at its inferior Border.—The same Plan was pursued.

24th.—The Slough was more separated, and a large Quantity of Fæces discharged through the Opening.—The Fomentation was constantly applied.

26th.—The Slough came away, the Opening large, and a Portion of the annular Substance of the Intestine, of con-

84 O B S E R V A T I O N S

siderable Extent, discharged also ; the Patient was now much relieved in all respects.

30th.—Continued to mend : Discharge of Fæces continued through the Opening, which was much contracted, and the Tumor almost gone.—The Stools began to be discharged by the Rectum.

From this Period the Wound contracted every Day, the Discharge of the Fæces through it lessened gradually, and, in six Weeks, it was perfectly cicatrized.—During the Cure, great Attention was paid to keep the Sore as clean as possible ; and a Diet, consisting of Broths, &c. which yielded the smallest Quantity of Fæces, was strictly attended to.—Mrs. S——, after this Case happened, lived six Years, and then died of pulmonary Complaint.

August 20, 1779, I was desired to visit Mr. P——, a Farmer, at Barnacle, in the County of Warwick.—I discovered two Openings in the Groin, just below Poupart's

part's Ligament, through which the Fæces were daily discharged.—Some Weeks before the Time I visited him, he had Symptoms of strangulated Hernia; for which he had been attended by a Surgeon in his Neighbourhood: the Tumor in the Groin burst, and a large Discharge of excrementitious Matter had ensued, by which he was much relieved.—I enjoined him to keep in Bed, to lie on his Back, applied some Lint and sticking Plaster over the Sores, a Compress and Bandage.—Every Morning a Glyster was injected to solicit the Fæces by the Rectum, and his Diet consisted of nourishing Broths, &c.—By pursuing this Plan, the Sores gradually contracted; in the Space of seven Weeks they were entirely healed, and no particular Inconvenience succeeded.

Mr. *Alanson* has communicated to me the following Case:

“ In the Month of July, 1779, I was
“ called to a Patient in a neighbouring
“ Village.

“ Village. She was a healthy Woman,
“ about forty Years old ; she complained
“ of a Tumor, which was about the Size
“ of a Hen’s Egg, in her Groin ; she
“ could not tell exactly how long she had
“ been afflicted with it, but did not con-
“ sider it as a Complaint of any Conse-
“ quence. It became painful and tender
“ to the Touch, and she was seized with
“ Pain, Vomiting, and Costiveness. Ap-
“ plication was made to a medical Person,
“ who treated the Tumor as an Abscess,
“ and informed her, it would come to
“ Matter : he assiduously gave her Medi-
“ cines as though she had the iliac Passion.
“ She went on under the Symptoms of a
“ strangulated Hernia eleven Days, her
“ Disorder not being understood, or pro-
“ perly treated. Dr. *Binns* was now call-
“ ed : he immediately made her Friends
“ acquainted with the real State of the
“ Business, and desired a Surgeon might
“ be called. I was sent for, and she fell
“ jointly under our Care. Her Pulse,
“ Tongue, and general Aspect resembled
“ that

“ that of a Patient in the last Stage of a
“ putrid fever, and she appeared as if
“ she had but a short Time to live; she
“ faultered in her speech, and seemed
“ nearly exhausted. Her Belly was ex-
“ ceedingly hard to the Touch, and en-
“ larged; she was constantly vomiting up
“ most offensive fæcal Matter; the Tu-
“ mor retained the Marks of having been
“ highly inflamed, and its Centre, for
“ about the Size of a Shilling, was a gan-
“ grenous Slough.—Without any Hopes
“ of Success, I divided the Eschar, and
“ continued the Incision the whole Length
“ of the Tumor, with a View to discharge
“ the Contents of the Intestines, and give
“ her some Ease, by removing the Tension
“ of the Belly. A prodigious Quantity
“ of fæcal Matter and Wind was dis-
“ charged, so offensive that no Person
“ could, for some Time, bear to remain
“ in the Room.—Poultices of Carrots
“ and antiæptic Washes, and Fomenta-
“ tions were directed to the Part, and fa-
“ line Draughts in the effervescent State
“ inwardly.

“ inwardly.—In short, the Patient daily
“ recovered. She was allowed a liquid
“ nutritious Diet: this, nearly as soon as
“ taken into the Stomach, passed through
“ the Wound unaltered. She was direct-
“ ed, therefore, to take only a little at a
“ Time, and to repeat it frequently; and
“ restorative Glysters of Milk and Broth
“ were frequently injected into the Rec-
“ tum: The internal Surface of the
“ Wound appeared for some Time a con-
“ fused, putrid, sloughy Mass; however,
“ in eight or ten Days the anterior Part
“ of the hernial Sac, with the whole an-
“ terior Surface, and the whole of the
“ peritoneal Coat of the protruded Intes-
“ tine separated, having the muscular Fi-
“ bres more clear and distinct than could
“ have been done by an accurate Dissec-
“ tion. The Fæces discharged through
“ an Aperture, which lay where the Fold
“ of the Intestine was in contact, and
“ close to the abdominal Ring. It was
“ curious to observe the constant peristal-
“ tic Motion of the protruded Intestine,
“ which

“ which had a continual and verinicular Motion, like that of a crawling Worm. In about three Weeks some Part of the Fæces first began to go past the wounded Intestine, and she had a Discharge *per Anum*: this daily increased and diminished at the Wound, till the Opening at the Intestine totally closed. A Difficulty, apparently, of considerable Importance took place; the Wound daily contracted, and consequently drew the folded Intestine together, or, in other Words, the Cavity in which it lay became so small, that we were fearful it would be strangulated in the Wound, and the Extremity of the Fold was pushed considerably above the Surface of the Skin. On maturely considering the Case, we thought it most prudent to let Nature have her Way, and go as far as she was able towards completing the Cure, before we called in the Assistance of Art. When the Part was completely healed and closed, so that only a Cavity, large enough to contain the Intestine,

90 O B S E R V A T I O N S

“ Intestine, projecting above the Surface,
“ remained, we had Thoughts of applying
“ a moderate Pressure, by a lead Weight,
“ properly adapted to force the Intestine
“ within the Limits of the Wound, keep-
“ ing the Body in an horizontal Position :
“ this Proposal was debated when the Pa-
“ tient was present.—At our next Visit
“ we found, what we had not Resolution
“ to attempt, had been successfully done
“ by our Patient: she applied a three
“ Pound lead Weight over Compresses,
“ properly adapted to the Wound, and
“ by this Means, without the smallest De-
“ gree of Pain or Danger, reduced and
“ retained the Intestine below the Skin,
“ which had now an Opportunity of
“ forming over the Wound, which agree-
“ able Event soon took place, and the
“ Patient’s general Health completely re-
“ turned. She remains, at this Day, per-
“ fectly well, and has been able to use
“ very laborious Exercise, by which she
“ earns her Livelihood.”

Systematic

Systematic Writers upon Herniæ have taken much Pains to distinguish them from other Diseases, but it must be confessed, that, notwithstanding all their Care on this Account, the young and inexperienced Practitioner will often find himself in a State of Uncertainty and Embarrassment.—And indeed the Circumstances are sometimes so ambiguous, the Relation of the Patient so little to be depended on, that the boasted Tactus eruditus fails, and the Veteran in the Profession is obliged to confess the Uncertainty of his Opinion.—In the Bubonocele, the Tumor being connected with the spermatic Process, subject itself to various Tumors and Diseases; and the Contents of the Hernia being often found in contact with the Testis, it is no Wonder that Difficulty should sometimes occur in determining, with Accuracy, the exact Nature of the Case.—The encysted Hydrocele of the spermatic Process may sometimes be confounded with the Bubonocele: and the Hernia congenita may, from the Similarity of their Appearances,

pearances, possibly, be mistaken for an Hydrocele of the Tunica Vaginalis.

The encysted Hydrocele of the spermatic Process, like the Bubonocele, occasions a Tumor in the Groin; it is sometimes, also, as suddenly produced: By pressing against, or appearing to enter *within* the Border of the Tendon of the oblique Muscle, it will give to the Surgeon the Idea of communicating with the Cavity of the Abdomen. A Fluctuation of the Fluid within is laid down, by surgical Writers, as a distinguishing Mark to discriminate the two Diseases; but this is, in general, so exceedingly obscure, that very little Information is to be obtained. Nor does the History of the Disease reflect any great Light upon it. In both Cases the Tumor appears first in the Groin, is frequently supposed to be occasioned by Blows, or some violent Exertions of the Body.

If,

If, however, after its first Appearance, the Tumor is capable of being returned into the Abdomen, which a Hernia, without Strangulation, most generally is, or if the spermatic Process can be felt above it, no Doubt of its Nature can remain.—The Case may be mixt, as in the following:

January 3, 1783, a Gentleman, about 5 Years of Age, applied to me an Account of a Rupture he had in the right Groin.—A considerable Time before he had a small Swelling in that Part, and he acquainted me, that he had applied to an eminent Surgeon of London, who had procured a Truss for him; that sometime after he had used it, he perceived his Rupture return, and the next Morning, the swelling was increased to four Times its usual Size. When I examined the Part, perceived the spermatic Process occupied by a large Tumor, which seemed to extend under the Tendon of the external oblique Muscle.—It had much the Appearance

pearance of a Hernia, and it gave to the Fingers the same Kind of Sensation, which an intestinal Rupture generally does.—The Tumor was manifestly affected by sneezing and coughing: it was found, upon Trial, irreducible; and the Attempts made to return it, produced Pain and Uneasiness.—No Symptoms of Strangulation appeared: the Patient had Stools, and was neither sick nor very much indisposed.—His Business required him to go to London, I therefore advised him, for the present, to lay aside the Truss, and to apply a common suspensory Bandage.—When he was in London, he consulted Mr. *Sharpe*, who, having very diligently examined the State of the Tumor, and suspecting a Fluid within it, made a small Puncture, through which a considerable Quantity of watery Fluid was discharged. The Fulness of the spermatic Process immediately subsided, but the small Swelling, which originally appeared in the Groin, was still perceptible.—This was, by Pressure, reduced,

duced, and a proper elastic Truss being applied, retained it within the Abdomen.

It appears from the preceding History, that a small Descent of Intestine was, in this Case, complicated with an Hydrocele of the spermatic Chord, and that the latter was probably occasioned by the Pressure of the Truss, which had bruised or ruptured the Lymphatics of that Process.

The Appearances of the Hydrocele and the Hernia congenita are, in many respects, similar. It sometimes happens, that the Water in the Hydrocele distends the Tunica Vaginalis, and pressing against the Opening of the external oblique Muscle, prevents the Surgeon from feeling the upper Part of the spermatic Chord, or its Vessels.—In the Hernia congenita, the Contents of the Tumor being within the Tunica Vaginalis, and therefore in contact with the Testicle; in both Diseases the Testis is generally felt in the inferior Part of the Tumor, but at some Distance

from

from the Bottom of the Scrotum.—If the Hydrocele has been of long Continuance, the Tunica Vaginalis will be much diseased, and a Fluctuation of the contained Fluid, of course, less evident.—But if the Surgeon will attend to a few Circumstances, he will soon be enabled to clear up the Difficulty.—The Hernia begins in the Groin; the Tumor is, in general, increased by sneezing or coughing:—it frequently descends slowly into the Scrotum, and sometimes recedes into the Belly. In the Hydrocele the Enlargement is always first perceived in the inferior Part of the Tunica Vaginalis, and proceeds upward.—The spermatic Process is often to be felt in a natural State above it, and an experienced Examiner will often determine by the Touch, that a Fluid exists within.—There are, likewise, other Diseases of the spermatic Chord, not hitherto described by chirurgical Authors, which may be mistaken for Herniæ.

April

April 10, 1778, I was sent for to Rugby, in the County of Warwick, to consult with an eminent Physician and a Surgeon, in the Case of an elderly Gentleman, who, as I was informed by Letter, had a strangulated Rupture.—I found him in a weak State in Bed; the whole spermatic Process was occupied by a Tumor which pressed against, or passed under, the Tendon of the external Muscle. The Tumor throughout its whole Extent was tense and painful wherever I pressed my Fingers against it; and had all the external Appearance of an Hernia. But had it been an Hernia, and in an inflamed State, it was natural to suppose, that Symptoms of a strangulated Intestine, or diseased Omentum, must have been produced. He had neither Hiccough, Vomiting, Nausea, Costiveness, or any Symptom indicating Strangulation.—He had a natural Stool every Day during his Confinement: the Parts were in constant Pain, and he was feverish.—I was acquainted, that many Years before he had a Rupture, and wishing to conceal it

from his Friends, had undertaken a Journey to London, where the Tumour was reduced, and a Truss applied; after the Application of which, the Parts remained in their natural State; that about a Fortnight before, his Truss being worn out, he ordered another to be made under his own Direction, and soon after he had applied it, he felt Pain and Uneasiness in the Part, which had continued and increased.—The Pad of the Truss, upon Examination, was found as hard as a Tennis Ball.—It was agreed, that he should lose some Blood at the Arm, take cooling and saline Medicines, and be treated in the antiphlogistic Manner.—Upon visiting my Patient, two Days afterward, I found a dark coloured Slough beginning to form upon the Part, against which the Pad of the Truss had pressed. He complained of much Pain, Uneasiness, and Difficulty in the passing of his Urine.—In about a Week from the Time, I first saw him he died.

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In this Case, no Doubt can be entertained, but that the Pressure of the hard Pad of the Truss, ill made and injudiciously applied, occasioned a Contusion of the spermatic Process, which, inflaming, terminated in a Gangrene ; and it is probable, also, from the Symptoms, that the Disease accompanied the Vas deferens in its Way to the posterior Part of the Bladder, and occasioned the painful and difficult Discharge of Urine.

A schirrous Testis produces an Enlargement of that Gland, and frequently the Disease spreads throughout the whole Extent of the spermatic Process, occasioning a Tumor in the Groin, communicating with the Cavity of the Abdomen.—To the Eye, this Disease appears like an old Rupture.—But the Swelling first appearing in the glandular Part of the Testis, its gradual Enlargement, the Tumor of the Groin being subsequent to that of the Testicle : the darting, lancinating Pain which often accompanies it ; the varicose

State of the Veins of the Scrotum, when the Tumor is large, and which often burst and occasion a profuse Hæmorrhage, the upper Part of the Chord being, in many Cases, still to be felt, the Resistance and Induration of the Tumor will, in general, leave no room to doubt the precise Nature of the Complaint.—But the following Case will afford to the young Practitioner a Lesson, to be somewhat on his Guard, when he is about to give an Opinion in these, often, very obscure Diseases.

September 13, 1783, Mr. *Harrold*, Surgeon of this City, desired me to visit an elderly Man with him, who had many pressing Symptoms of a strangulated Hernia. We found the Groin and right Side of the Scrotum occupied by an oblong Tumor, which, upon Examination, was discovered to be hard and unequal in its Surface.—Upon pressing the Part, or the inferior Region of the Abdomen, the Patient complained of much Soreness; he had a dejected Countenance, a brown Tongue,

Tongue, vomited frequently, and sometimes had a Hiccough. He had had, by the Anus, no Passage during the last five Days, although Calomel and other cathartic Medicines had been given to procure Stools. He informed us, that he had been subject to a Rupture on that Side several Years; that he had generally succeeded himself in reducing it, but that it had been constantly down during the last Month.—A very awkward Truss, invented by himself, and which, by its Structure, was calculated to make a very improper and irregular Pressure upon the diseased Parts, we found upon the Tumor.—We directed a Glyster, composed of Sal catharticus amarus, and an Infusion of the Leaves of Tobacco to be administered: but this was rejected almost as soon as it was given.—The *extreme* Hardness of the Parts left us little room to entertain Hopes of Reduction by the Taxis, assisted by the Means in common Use.—The Case was dangerous; the Symptoms were urgent; and we resolved upon the Operation.

—Before we concluded on this Measure, we perceived, *as we imagined*, the Testis in a natural State beneath the inferior Part of the scrotal Swelling.—I began an Incision half an Inch above the Tumor, and continued it to the Bottom of the Scrotum.

—In dissecting the Parts I discovered, that the Tumor was a schirrous Testis, and the spermatic Chord was diseased, and so much thickened, as to be equal in Diameter to the Testicle itself.—The upper Part of the Tunica Vaginalis was adherent to the Tunica albugina of the Testis, the lower Part contained a Fluid, into which projected the lower Portion of the Epididymis degenerated into a soft Substance, as large as the Testis, and which deceived us at our first Examination.—Castration was performed, and the spermatic Chord was cut off close to the Opening of the Tendon of the external oblique Muscle, but the Disease extended too far within the Abdomen, and the Man was too much exhausted by the previous Pain he had suffered,

suffered, to give that Operation any Chance of succeeding.

The History we received of those Circumstances, by which the Patient had deceived himself and us; the Symptoms which, at the Time we saw him, indicated a Stricture upon the intestinal Canal; the Form of the Tumor; its extending under the Opening of the abdominal Tendon, and the enlarged State of the lower Part of the Epididymis all contributed to mislead our Opinion, and to deceive our Judgment,

April 5, 1783, I was desired to visit a Man, about 50 Years of Age, with Mr. *Harrold*, an ingenious Surgeon of Atherton, formerly a Pupil of mine.—He had a large painful Tumor in the Groin and Scrotum.—It was unequally hard, in some Parts appeared to contain a Fluid.—The upper Part of the spermatic Process was not to be perceived, the Tumor pressing against the Tendon of the oblique Muscle.

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—An eminent Surgeon in the Neighbourhood had visited the Patient, and declared the Case to be a Rupture.—We were informed, that the Swelling began at the lower Part of the Scrotum, proceeding upward; and we entertained so little Doubt of the Case, being a true Schirrus of the Testis, that we proposed Castration as the only Remedy.—We were the more induced to this, because we entertained Hopes from an obscure Fluctuation we imagined, we perceived in the upper Part of the Tumor, that some Kind of Fluid was contained there.—Nor were we deceived.—Mr. *Harrold* performed the Operation, and in dissecting the upper Part of the Chord, several Ounces of a watery Fluid were discharged; the Testicle was truly schirrhous, and weighed upwards of two Pounds.—The Patient recovered, and the Wound was completely cicatrized..

The following Case has puzzled me so much that I shall relate it, without any Remarks.

August

August 20, 1784, I was desired to visit a middle aged Man at Monk's Kirby, in the County of Leicester.—He had the Symptoms of a strangulated Hernia.—He had been two Days under the Care of Mr. *Bates*, a Surgeon in the Neighbourhood, who ordered to the Herniæ the Application of warm Fomentations, &c.—Mr. *Jervis*, of Lutterworth, had been sent for the Night before I saw the Patient, and after bleeding and cold Applications had been used, ineffectually endeavoured, to procure a Reduction of the Parts.—The Man remembered that in his early Childhood he had a Rupture, which had been cured; said, that about six or seven Years past, he had a Swelling in his Groin, which had never been very troublesome to him; but that a few Days before I saw him, by some sudden Exertion, the Swelling had suddenly increased.—We agreed upon the Operation for the Bubonocele, which was performed by Mr. *Jervis*.—The Swelling occupied the whole Scrotum.—The Testis on that side was not perceptible.—Upon dividing

dividing the hernial Sac, a considerable Quantity of Water issued out.—A large Fold of Intestine *very dark coloured*, was found in contact with the Testis.—The tendinous Opening of the Muscles was dilated, and the Intestine was returned fairly into the Belly, of which I convinced myself by an Examination with the Finger.—There was still a very considerable Thickness and Tumor of the spermatic Chord, and whilst we were examining it, through an Opening so small as not to admit the obtuse End of the Probe, a Jet of a thin, brown Fluid of an offensive Smell broke out, and continued many Minutes.—It stopt suddenly, and upon the Patient's expressing a Desire of going to the Closestool, it returned again. We formed various Conjectures, none of which were very satisfactory, of the Cause of this Phenomenon.—The Wound was treated in the usual Way, and the Man ordered to Bed; but the Discharge of the Fluid I have described, made its way through the Dressings and Bandages.—All the bad Symptoms

terminated

toms that preceded the Operation, continued after it, and the Patient sunk very fast; he had no Passage per Anum: and in about thirty Hours died.—Upon Dissection, Mr. *Jervis* found the Portion of the Ileum, which he had returned from the Scrotum, lying near the Groin, much recovered in its Complexion; tracing the Intestine forward, he was surprised to perceive, at the Distance of ten Inches from the part just described, another Portion of Intestine, still engaged in the Groin.—Upon accurate Examination, he found, that it was contained in a Sac, which had been pushed into the spermatic Process.—Thus, in this Case, there had been a double Herniæ, one a common Enterocèle, the other the Herniæ Congenita, the former had been relieved by the Operation, the other had not.—The Intestine within the Sac was much diseased; was pretty generally adherent to it; and the Part through which the Fluid had been discharged at the Time of the Operation; both the Intestine and the Sac were discovered to be in a sloughy State.

F I N I S.

